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FIG 1

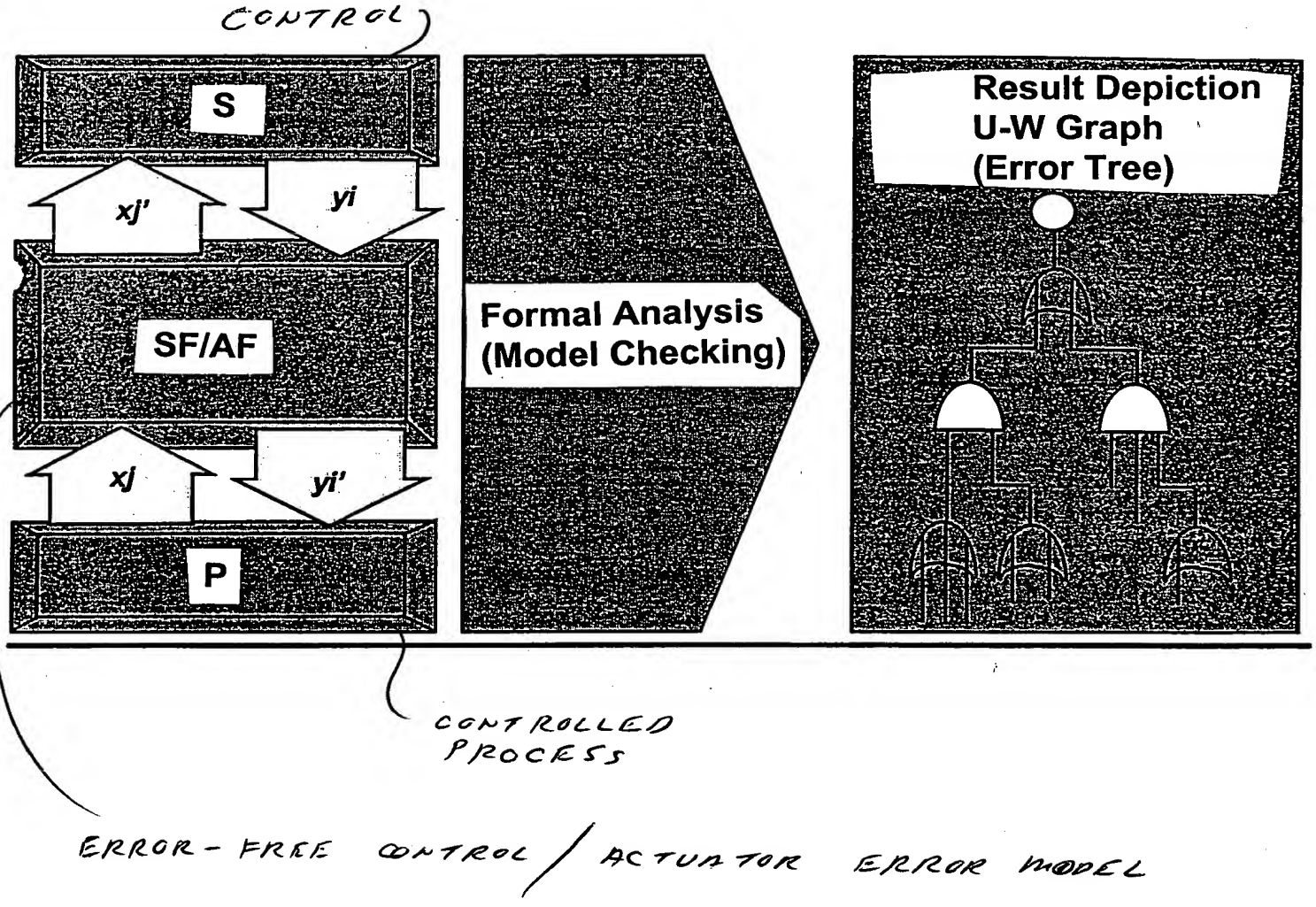

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FIG 2

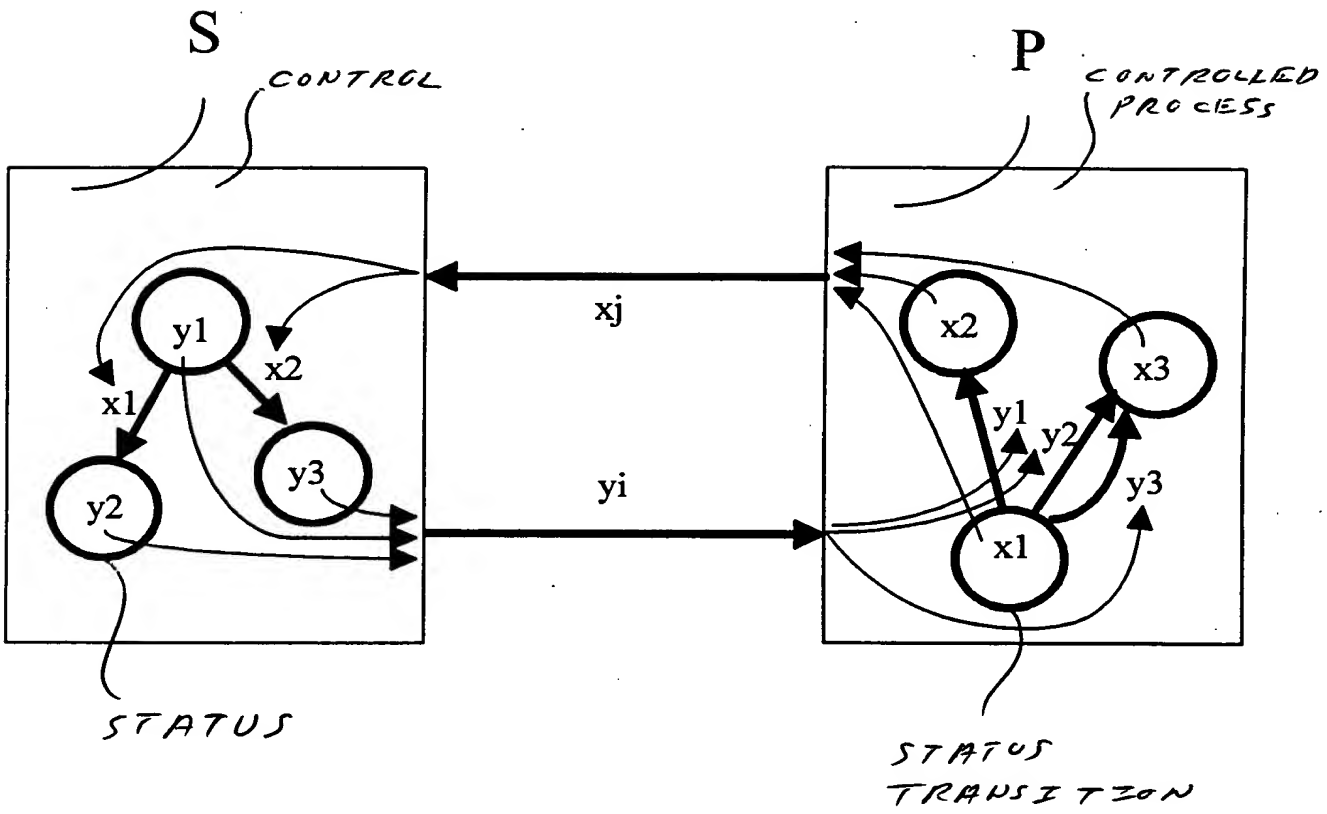

FIG 3

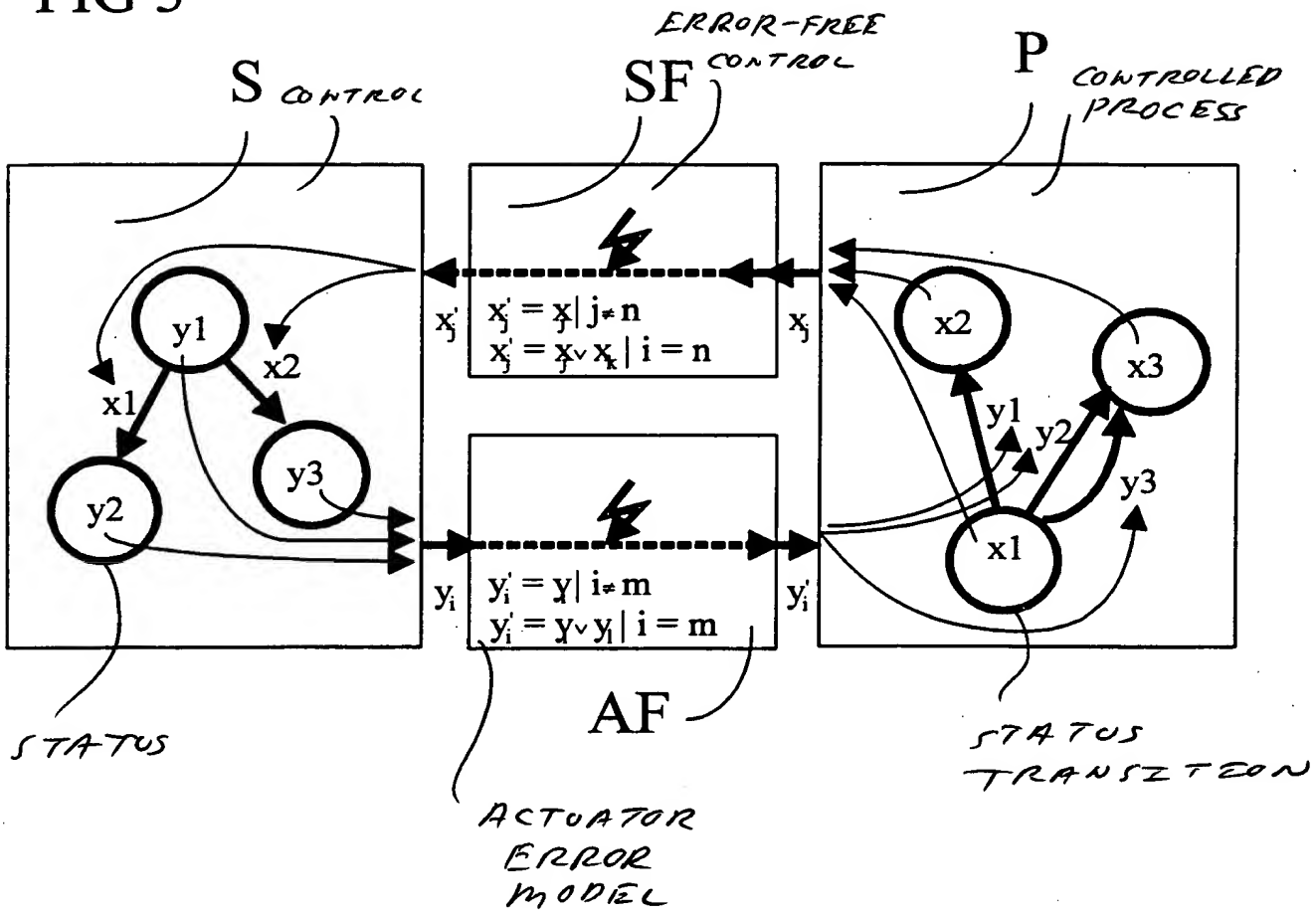
S CONTROL
ERROR-FREE
SF CONTROL
P CONTROLLED PROCESS
y1
x2
x1
y3
y2
x2
x3
y1
y2
y3
x1
$x_j' = x_j \mid j \neq n$
$x_j' = x_j \vee x_k \mid i = n$
x_j
x_j'
$y_i' = y_i \mid i \neq m$
$y_i' = y_i \vee y_l \mid i = m$
y_i
y_i'
STATUS
AF
STATUS TRANSITION
ACTUATOR ERROR MODEL

FIG 4

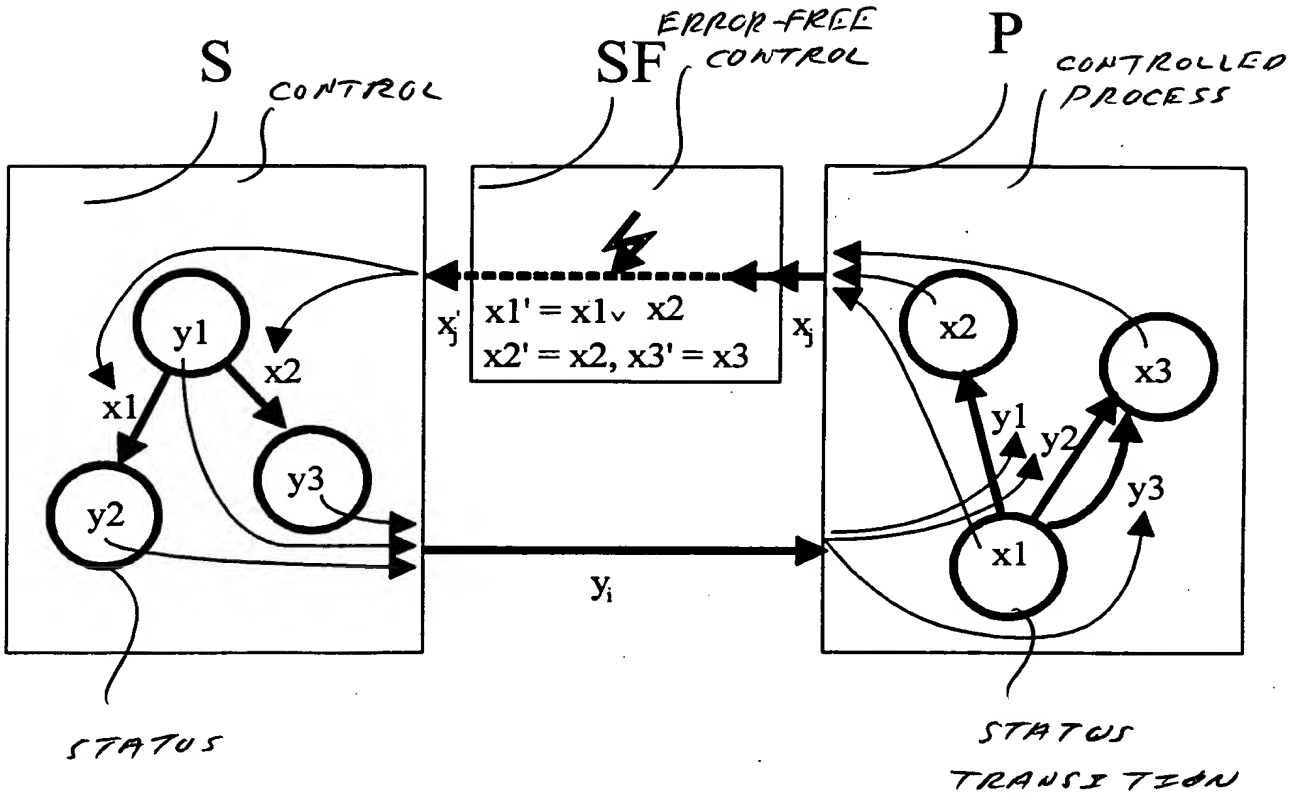
S
CONTROL
SF
ERROR-FREE CONTROL
P
CONTROLLED PROCESS
x1' = x1 ∨ x2
x2' = x2, x3' = x3
x'j
xj
y1
x2
x1
y3
y2
yi
x2
x3
y1
y2
y3
x1
STATUS
STATUS TRANSITION

FIG 5

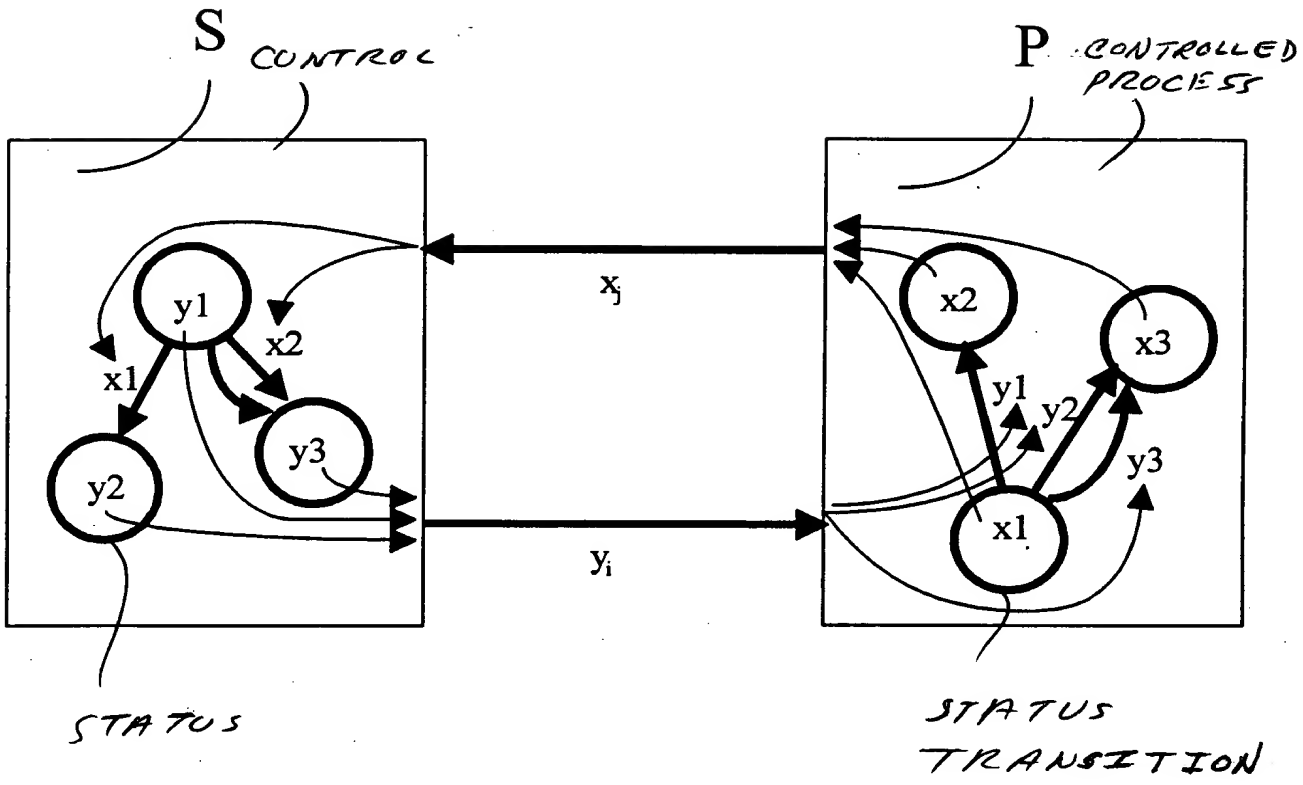
S
CONTROL
P
CONTROLLED PROCESS
y1
x2
x1
y3
y2
x_j
y_i
x2
x3
y1
y2
y3
x1
STATUS
STATUS TRANSITION

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FIG 6

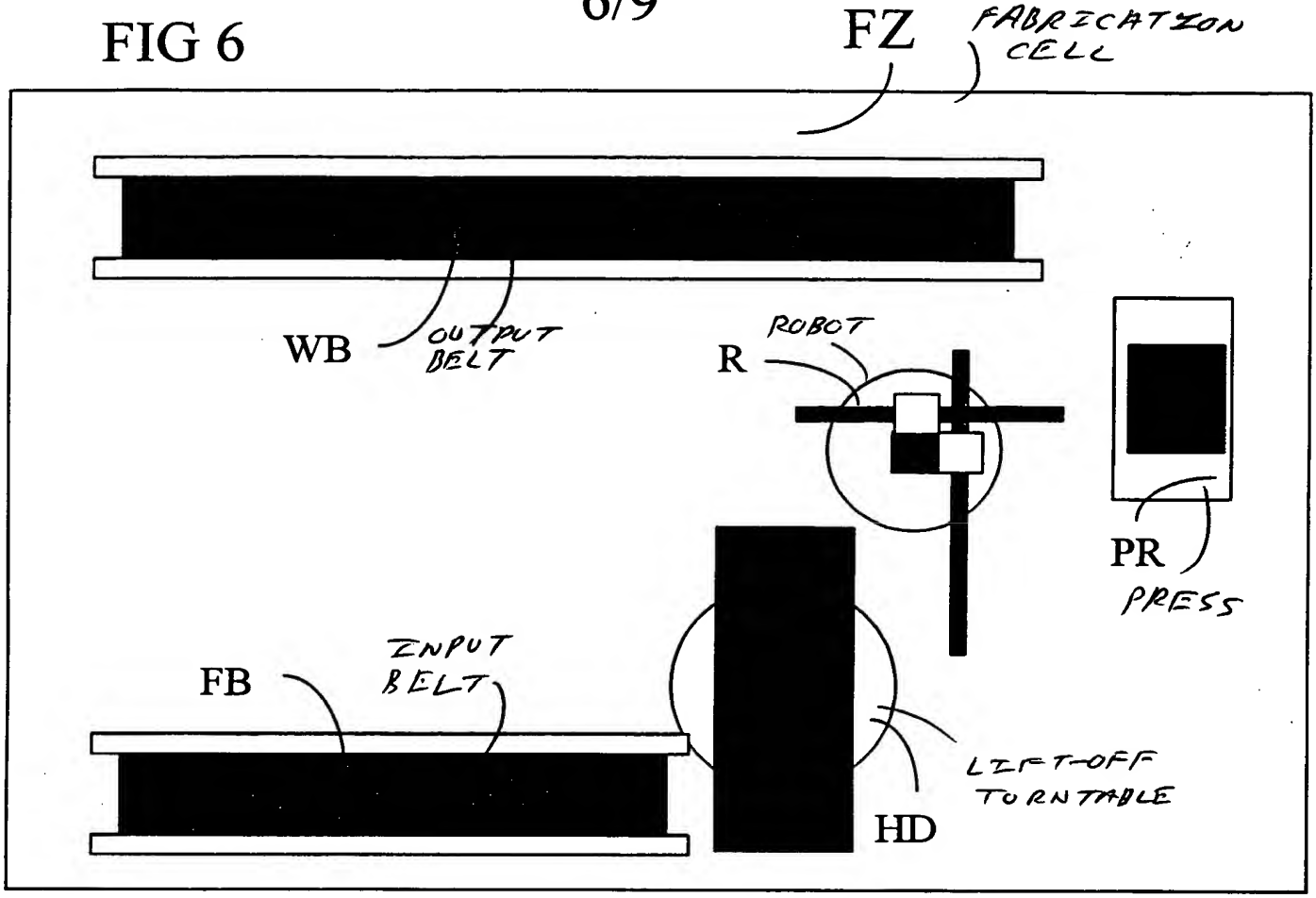

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FIG 7

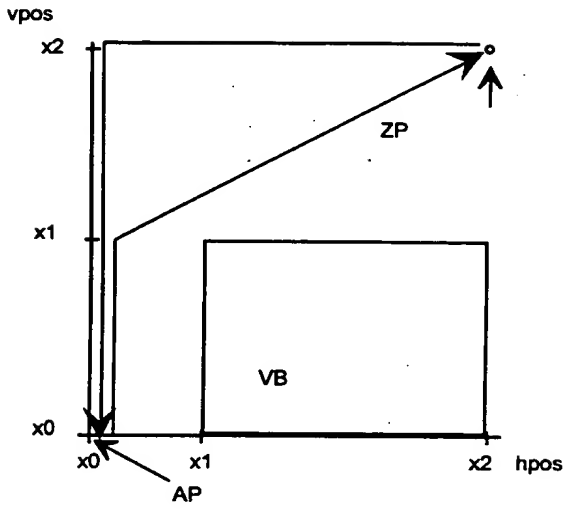
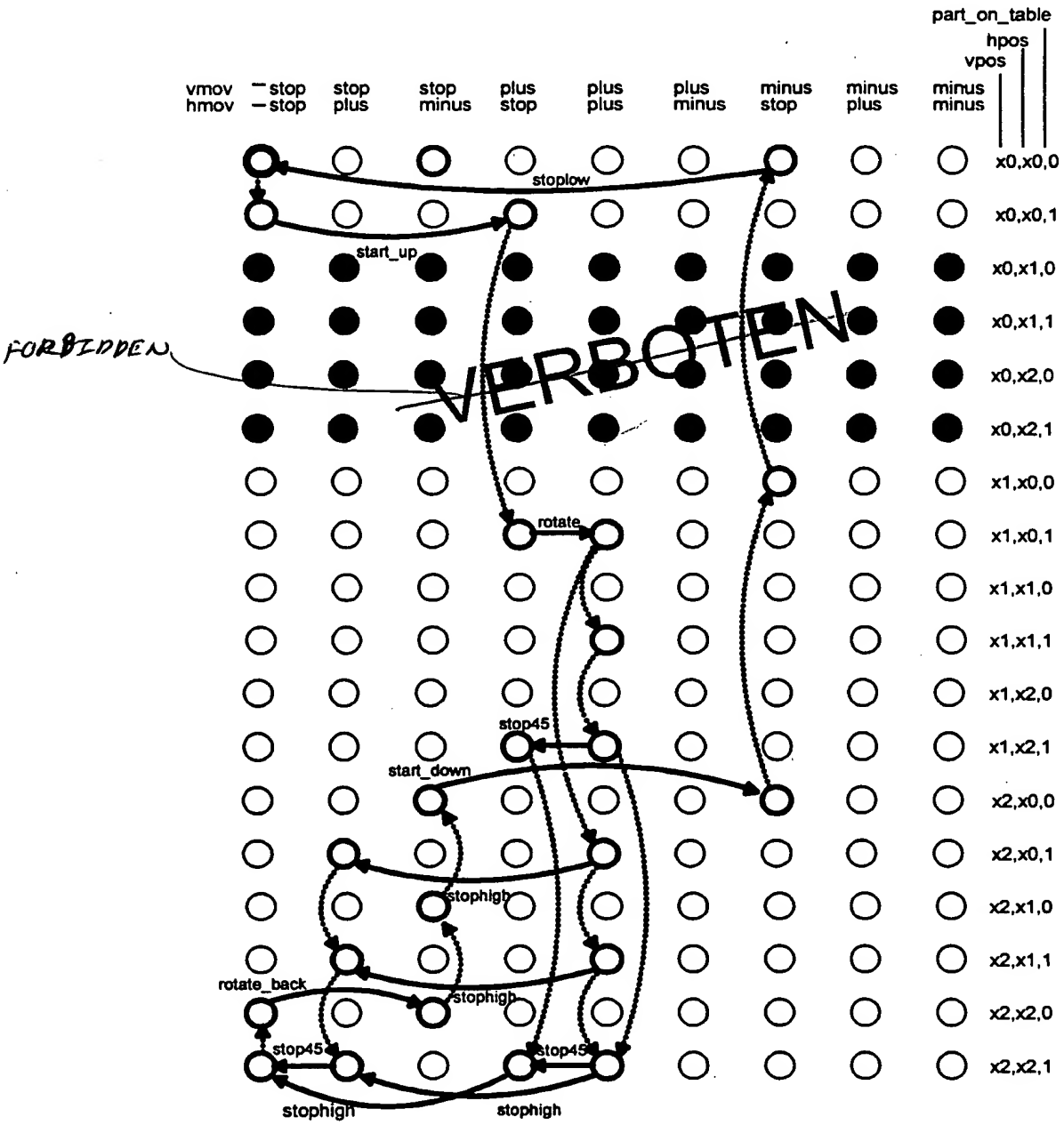


FIG 8


part_on_table
hpos
vpos
vmov
hmov
stop
stop
stop
plus
plus
plus
minus
minus
minus
stop
plus
minus
stop
plus
minus
stop
plus
minus
x0,x0,0
x0,x0,1
x0,x1,0
x0,x1,1
x0,x2,0
x0,x2,1
x1,x0,0
x1,x0,1
x1,x1,0
x1,x1,1
x1,x2,0
x1,x2,1
x2,x0,0
x2,x0,1
x2,x1,0
x2,x1,1
x2,x2,0
x2,x2,1
stoplow
start_up
FORBIDDEN
VERBOTEN
rotate
stop45
start_down
stophigh
rotate_back
stophigh
stop45
stop45
stophigh
stophigh

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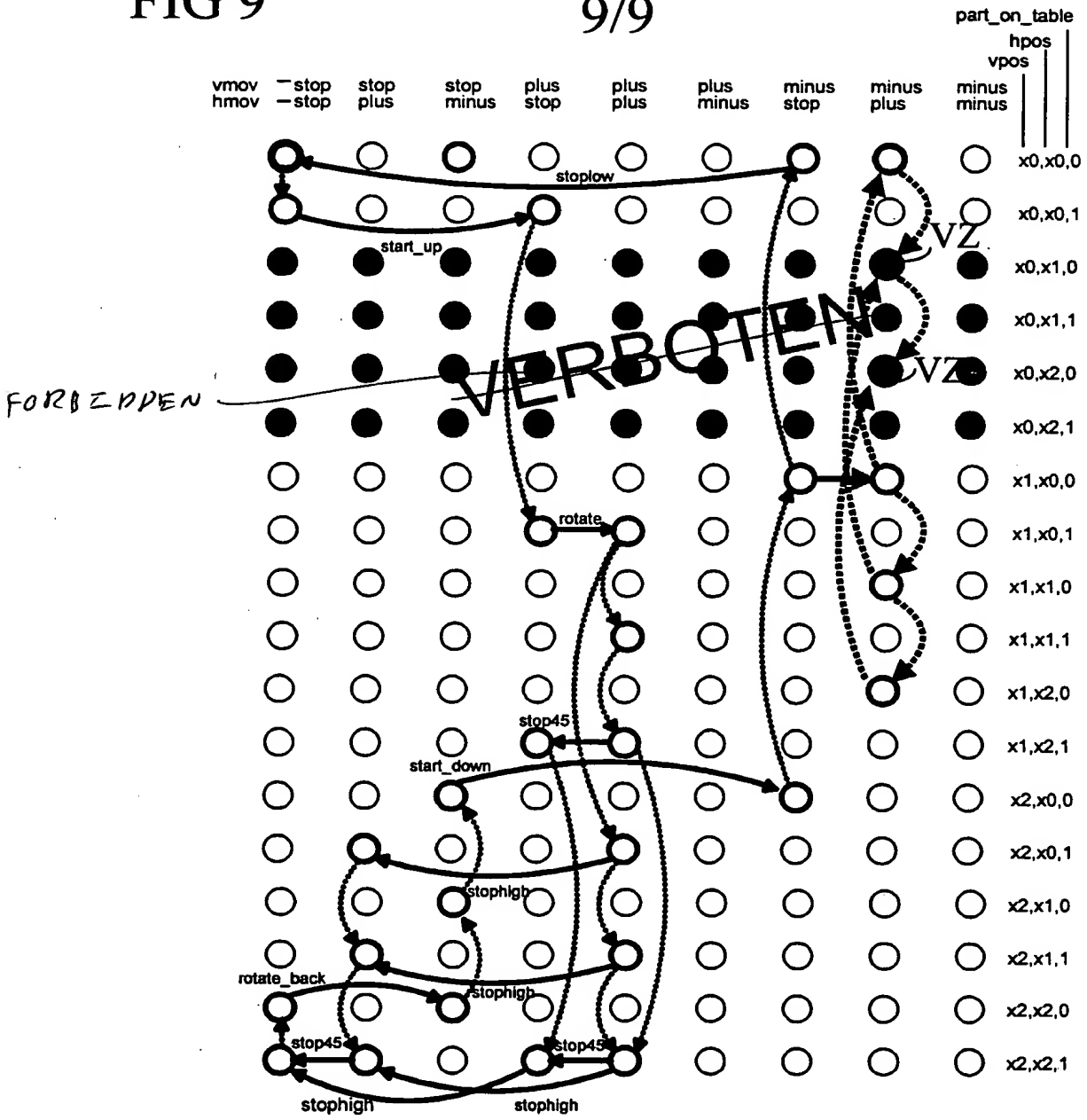
FIG 9